



POSTER PRESENTATION

Open Access

Modeling the relapse distribution of *Plasmodium vivax* in different geographies

Philip Eckhoff*, Edward Wenger

From Challenges in malaria research: Core science and innovation
Oxford, UK. 22-24 September 2014

One of the defining challenges of controlling and eliminating *Plasmodium vivax* is the tendency to relapse. Months or even years after clearing the initial infection, new blood-stage infections can emerge from hypnozoites in the liver if they are not cleared with radical cure. The relapse phenomenon is further complicated by the fact that *P. vivax* infections exhibit different patterns of relapse times in different areas. The tropical Chesson variant has a short distribution, with most relapses occurring in the first 3-4 months after initial infection. Other variants have an initial infection, early relapses, and then later relapses, 8-12 months, after the initial infection. Still others have relapses over a year after the initial infection, and some do not exhibit an initial infection at all. We construct a unified mathematical model for the distribution of three important patterns, demonstrate how each distribution is well-suited to the local transmission dynamics in which it is observed, and discuss the implications for control and elimination.

Published: 22 September 2014

doi:10.1186/1475-2875-13-S1-P27

Cite this article as: Eckhoff and Wenger: Modeling the relapse distribution of *Plasmodium vivax* in different geographies. *Malaria Journal* 2014 **13**(Suppl 1):P27.

**Submit your next manuscript to BioMed Central
and take full advantage of:**

- Convenient online submission
- Thorough peer review
- No space constraints or color figure charges
- Immediate publication on acceptance
- Inclusion in PubMed, CAS, Scopus and Google Scholar
- Research which is freely available for redistribution

Submit your manuscript at
www.biomedcentral.com/submit



Institute for Disease Modeling, Bellevue, WA, USA



© 2014 Eckhoff and Wenger; licensee BioMed Central Ltd. This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. The Creative Commons Public Domain Dedication waiver (<http://creativecommons.org/publicdomain/zero/1.0/>) applies to the data made available in this article, unless otherwise stated.